ATTY. DOCKET NO. SERIAL NO. FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE GP068-03.CN1 09/523,237 APPLICANT 1.1 15 2000 PRMATION DISCLOSURE STATEMENT BECKER et al. BY APPLICANT NOV 1 3 2000 な FILING DATE GROUP CENTER 1600/2900 SEVERAL SHEETS IF NECESSARY) March 10, 2000 1643

ADGM										U.S. PATENT DOCUMENTS	
EXAMINER INITIAL			DOC	UME	ENT	NUM	BER		DATE	NAME GEGS SUBSEASS FILING DATE (IF APPROPR	
Me		5	7	3	1	1_	4	8	3/24/98		
					_						
						-					
	-		-		_						***
								•			

									FOREIGN PATENT DOCUMENTS					
EXAMINER INITIAL		DOC	CUME	ENT	NUM	BER		DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION		
INITIAL							YES	NO						
			_											
							L							
								- "						

	_	 								
EXAMINER INITIAL		 OTHER	DOCUMENTS	(INCLUDING	AUTHOR,	TITLE,	DATE,	PERTINENT	PAGES,	ETC.)
				<u></u>				_		

EXAMINER MUSL

DATE CONSIDERED

*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

To Be Assigned



SHEET 1 OF 6 ATTY. DOCKET NO. FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE SERIAL NO. 09/523,237 PATENT AND TRADEMARK OFFICE GP068-03.CN1 Continuation of 08/893,300 APPLICANT INFORMATION DISCLOSURE STATEMENT BECKER et al. BY APPLICANT FILING DATE GROUP (USE SEVERAL SHEETS IF NECESSARY) March 10, 2000

			_							U.S. PATENT DOCUMENTS			jess 1
EXAMINER INITIAL		DOCUMENT NUMBER							DATE	NAME	SEAG S	SUDCEASE	FILING DATE (IF APPROPRIATE)
me	4	1	7	9	7	3	5	5	1/10/89	Stabinsky			(11 MINORIALE)
		<u>. </u>	9	2	5	7	8	5	5/15/90	Wang et al.			
	5	5	6	4	1	6	2	5_	6/24/97	Ecker et al.			
	5	5	6	4	5	9	8	5	7/08/97	Froehler et al.		X	
	5	5	6	5	2	0	9	9	7/29/97	Conrad			
	5		6	5	6	4_	2	7	8/12/97	Hammond et al.	7		
	5	4	8	0	8	0	2	3	9/15/98	Sanghvi et al.			
	5	4	8	6	6	3	3	6	2/02/99	Nazarenko et al.	1/		
	5		8	9	8	0	3	1	04/27/99	Crooke et al.	7		

		т-	_								FOREIGN PATENT DOCUMENTS				
EXAMI INIT				DO	CUM	ENT	NUI	MBEI	3	DATE	· COUNTRY	es s	SULLES	TRANSLA	ATION
		╄	-		_		_	_						YES	NO
M	4		0	3	1	8	2	4	5	5/31/89	EPO				
	_	┖	0	4	1	5	9	0	1	3/6/91	ЕРО		7		
<u> </u>	-	<u> </u>	0	4	2	1	7	2	5	04/10/91	ЕРО	\Box	7		
	1	_	0	7	4	2	2	8	7	11/13/96	ЕРО		7		
<u> </u>	\bot	_	9	0	1	2	1	1	6	10/18/90	РСТ		\bigvee		
	1	L	9	0	1	4	4	4	2	11/29/90	РСТ		λ		
	_	_	9	1	0	8	4	8	0	06/13/91	РСТ		/		
	1	L	9	2	0	2	2	5	8	02/20/92	РСТ				
	\perp		9	3	1	3_	1_	2	1	07/08/93	РСТ	/			
	Ц		9_	4	0	2	5	0	1_	02/03/94	РСТ				
	Ц		9	4	1	5	1	6	9	07/21/94	РСТ				
	Ц		9	4_	1	9	0	2	3	09/01/94	РСТ				
			9	5	1_	4	7	0_	6	06/01/95	PCT				
	_		9	5	2	2	6	2	3	08/24/95	РСТ		1		
	\Box		9	5	3	2	3	0_	5	11/30/95	PCT	7			
	Ш		9	6	0	6	9	5_	0	03/07/96	PCT		X		

EXAMINER /// /	
Malella	

DATE CONSIDERED 1/3/00

*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.





, , , , , , , , , , , , , , , , , , ,		
FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE	ATTY. DOCKET NO.	SERIAL NO. 09/523,237
PATENT AND TRADEMARK OFFICE	GP068-03.CN1	Continuation of 08/893,300
	APPLICANT	
INFORMATION DISCLOSURE STATEMENT	Becker et al.	
BY APPLICANT	FILING DATE	GROUP
(USE SEVERAL SHEETS IF NECESSARY)	March 10, 2000	To Be Assigned

									U.S. PATENT DOCUMENTS			
EXAMINER INITIAL	DOCUMENT NUMBER					(BEF	ł	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)
	L											

									FOREIGN PATENT DOCUMENTS				···	
EXAMINER		DOC	UME	NT	NUM	BER		DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION		
INITIAL		 										YES	NO	
	<u> </u>			_		_	_							
				_	_	_		:	•					
	_			_		_	-							
***				_			-							
					H									
-				\vdash		<u> </u>								

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
mes	Bobst et al., "Effect of the Methylation of the 2'-Hydroxyl Groups in Polyadenylic Acid on its Structure in Weakly Acidic and Neutral Solutions and on its Capability to Form Ordered Complexes with Polyuridylic Acid", J. Mol. Biol., 46:221-234 (1969)
	Burd et al., "Conserved Structures and Diversity of Functions of RNA-Binding Proteins", Science, 265:615-621 (1994)
	Chiang et al., "Antisense Oligonucleotides Inhibit Intercellular Adhesion Molecule 1 Expression by Two Distinct Mechanisms", J. Biol. Chem., 266(27):18162-18171 (1991)
	Corey, "48000-fold Acceleration of Hybridization by Chemically Modified Oligonucleotides", J. Am. Chem. Soc., 117(36):9373-9374 (1995)

EXAMINER	men	DATE CONSIDERED
*EXAMINER:	INITIAL IF CITATION CONSIDERED,	WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH

CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.





,**"· ·**

1/3/01

SHEET 3 OF 6 FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE ATTY. DOCKET NO. SERIAL NO. 09/523, 237 PATENT AND TRADEMARK OFFICE GP068-03.CN1 Continuation of 08/893,300 APPLICANT INFORMATION DISCLOSURE STATEMENT Becker et al. BY APPLICANT FILING DATE GROUP (USE SEVERAL SHEETS IF NECESSARY) March 10, 2000 To Be Assigned

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
mis	Cummins et al., "Characterization of Fully 2'-modified Oligoribonucleotide Hetero- and Homoduple: Hybridization and Nuclease Sensitivity", Nucleic Acids Research, 23(11):2019-2024 (1995)
	Dean et al., "Inhibition of Protein Kinase $C-\alpha$ Expression in Human A549 Cells by Antisense Oligonucleotides Inhibits Induction of Intercellular Adhesion Molecule 1 (ICAM-1) mRNA by Phorbol Esters", J. Biol. Chem., 269(23):16416-16426 (1991)
	Ecker et al., "Pseudo-Half-Knot Formation with RNA", Science, 257:958-961 (1992)
	Goodchild, "Conjugates of Oligonucleotides and Modified Oligonucleotides: A Review of Their Synthesis and Properties", Bioconjugate Chemistry, 1(3):165-187 (1990)
	Hou et al., "Inhibition of tRNA Aminoacylation by 2'-O-Methyl Oligonucleotides", Biochemistry, 35(48):15340-15348 (1996)
	Inoue et al., "Sequence-dependent hydrolysis of RNA using modified oligonucleotide splints and RNase H", FEBS Letter", 215(2):327-330, 1987
+	Inoue et al., "Synthesis and hybridization studies on two complementary nona(2'-0-methyl)ribonucleotides", Nucleic Acids Research, 15(15):6131-6148 (1987)
	Iribarren et al., "2'-0-Alkyl oligoribonucleotides as antisense probes", Proc. Natl. Acad. Sci, USA, 87:7747-7751 (1990)
	Knorre et al., "Oligonucleotides Linked to Reactive Groups", Oligodeoxynucleotides, Chpt. 8, pgs. 173-195 (1939)
	Lammond et al., "Antisense oligonucleotides made of $2'$ -O-alkylRNA: their properties and applications in RNA biochemistry", FEBS Letter, $325(1,2):123-126$ (1993)
+-	Leslie et al., "Structure of the Single-stranded Polyribonucleotide Poly(2'-O-methylcytidylic Acid)", J. Mol. Biol., 119:399-414 (1978)
	Lesnik et al., "Oligodeoxynucleotides Containing 2'-O-Modified Adenosine: Synthesis and Effects of Stability of DNA:RNA Duplexes", Biochemistry, 32(30):7832-7838 (1993)
	Markiewicz et al., "The modified nucleosides of tRNAs. II. Synthesis of 2'-O-methylcytidylyl (3'5') cytidine", Nucleic Acids Research, 2(6):951-960 (1975)
	Meinkoth et al., "Hybridization of Nucleic Acids Immobilized on Solid Supports", Analytical Biochemistry, 138:267-284 (1984)
	Miller et al., "Effects of a Trinucleotide Ethyl Phosphotriester, Gmp(Et)Gmp(Et)U, on Mammalian Cells in Culture", Biochemistry, 16(9):1988-1996 (1977)
	Monia et al, "Evaluation of 2'-Modified Oligonucleotides Containing 2'-Deoxy Gaps as Antisense Inhibitors of Gene Expression", J. Biol. Chem., 268(19):14514-14522 (1993)
	Ohtsuka et al., "Studies on Transfer Ribonucleic Acids and Related Compounds. XLI." Synthesis of tRNA Fragments containing Modified Nucleosides", Chem. Pharm. Bull., 31(2):513-520 (1983)
	Pilet et al., "Structural Parameters of Single and Double Stranded Helical Polyribonucleotides", Biochem. Biophys. Res. Comm., 52(2):517-523 (1973)
	Sproat et al., "Highly efficient chemical synthesis of 2'-O-methyloligoribonucleotides and tetrabiotinylated derivatives; novel probes that are resistant to degradation by RNA or DNA specific nucleases", Nucleic Acids Research, 17(9):3373-3386 (1989)
1	Suzuki, "SPKK, a new nucleic acid-binding unit of protein found in histone", EMBOJ, 8:797-804

myry



	SHEET 4 OF 6			
ATTY. DOCKET NO. SERIAL NO. 09/523,23				
GP068-03.CN1	Continuation of 08/893,300			
APPLICANT				
Becker et al.				
FILING DATE	GROUP			
	GP068-03.CN1 APPLICANT Becker et al.			

To Be Assigned

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

FORM PTO-1449

(USE SEVERAL SHEETS IF NECESSARY)

EXAMINER OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.) INITIAL Thibaudeau et al., "How Does the Electronegativity of the Substituent Dictate the Strength of the nie Gauche Effect?", J. Am. Chem. Soc., 116(9):4038-4043 (1994) Wei et al., "Hybridization properties of oligodeoxynucleotide pairs bridged by polyarginine peptides", Nucleic Acids Res., 24(4):655-661 (1996) Yamaguchi et al., "Chemical synthesis of the 5'-terminal part bearing cap structure of messenger RNA of cytoplasmic polyhedrosis virus (CPV): m'G5'pppAmpG and m'G5'pppAmpGpU", Nucleic Acids Res., 12(6):2939-2954 (1984) "Role of the Ribose 2'-Hydroxyl Groups for the Stabilization of the Ordered Structures of Ribonucleic Acid", J. Am. Chem. Soc., 91(16): 4603-4604 (1969)

March 10, 2000

EXAMINER	my	DATE CONSIDERED (/ 3/0/)
*EXAMINER:	INITIAL IF CITATION CONSIDERED, WHETH	R OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609: DRAW LINE THROUGH

CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.



FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE	ATTY. DOCKET NO.	SERIAL NO. 09/523,237
PATENT AND TRADEMARK OFFICE	GP068-03.CN1	Continuation of 08/893,300
	APPLICANT	
INFORMATION DISCLOSURE STATEMENT	BECKER et al.	
BY APPLICANT	FILING DATE	GROUP
(HEE CEVERAL CHEERE IN MEGRACIAN)	Manah 10 2000	

INFORMATION DISCLOSURE STATEMENT							PEMENT	L	BECKER et al.					
BY APPLICANT									FILING DATE	GRO	JP			
(USE SEVERAL SHEETS IF NECESSARY)							SSARY)		March 10, 2000		To Be Assigned			
								บ.8	. PATENT DOCUMENTS			· · · · · · · · · · · · · · · · · · ·		
EXAMINER	1 1				ER	DATE		NAME	CLASS	CLASS SUBCLASS	FILING DATE			
INITIAL									<u> </u>	(IF APPROPRIATE)				
L			1		Ш.			l		L				
							1	FORE	IGN PATENT DOCUMENTS		· · · · · · · · · · · · · · · · · · ·			
EXAMINER		DO	CUMEN	T N	IUMB:	ER	DATE		COUNTRY	CLASS	SUBCLASS	TRANSLATION		
INITIAL												YES	NO	
												125	1	
	十		+ +	十	十	+					 		 	
							<u></u>			<u> </u>	l	l	<u> </u>	
EXAMINER INITIAL				•	отн	ER DOO	CUMENTS (IN	NCLUI	DING AUTHOR, TITLE, DATE,	, PERTINENT P	AGES, ETC	.)		
ne		Blom	ners e	t al.	, "A	n appr	oach to the	struc	ture determination of nucleic	acid analogue	s hybridized	l to RNA	,,	
10		1										,		
		Nucl. Acid. Res., 22(20):4187-4194 (1994). Boiziau et al., "Antisense 2'-O-alkyl oligoribonucleotides are efficient inhibitors of reverse transcription,"												
		Nucl. Acid. Res., 23(1):64-71 (1995).												
		Bonham et al., "An assesment of the antisense properties of RNase H-competent and steric-blocking oligomers,"												
		Nucl. Acid. Res., 23(7):1197-1203 (1995).												
		Conrad et al., "Enzymatic synthesis of 2'-modified nucleic acids: identification of important phosphate,"												
		Nucl. Acid. Res., 23(11):1845-1853 (1995).												
		Cotten et al., "2'-O-methyl, 2'-O-ethyl oligoribonucleotides and phosphorothioate oligodeoxyribonucleotides,"												
		Nucl. Acid. Res., 19(10):2629-2635 (1991).												
		Dominski et al., "Identification and Characterization by Antisense Oligonucleotides of Exon and Intron,"												
		Mol. Cell. Biol., 14(11):7445-7454 (1994).												
						-			cleotide combinatorial librari	ies for drug dis	covery."			
							53-1856 (19				··,,,			
									nRNA translation by antisen	se 2'-O-alkylol	igoribonucl	eotides,"		
4		Nucl. Acid. Res., 22(22):4591-4598 (1994).												

EXAMINER //	DATE CONSIDERED
Milin	V3100

*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

, .





FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE ATTY. DOCKET NO. GP068-03.CN1

SERIAL NO. 09/523,237 Continuation of 08/893,300

APPLICANT

BECKER et al.

March 10, 2000

FILING DATE

GROUP

To Be Assigned

BY APPLICANT (USE SEVERAL SHEETS IF NECESSARY)

INFORMATION DISCLOSURE STATEMENT

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)						
me	Kawasaki et al., "Synthesis and Biophysical Studies of 2'-dRIBO-2'-F Modified Oligonucleotides,"						
	Presentation/SeminarISIS Pharmaceuticals (Jan. 1991).						
	Kean et al., "Interactions of oligonucleotide analogs containing methylphosphonate internucleotide linkages,"						
	Nucl. Acid. Res., 22(21):4497-4503 (1994).						
	Keller et al., "Synthesis and hybridization properties of oligonucleotides containing 2'-O-modified ribonucleotides,"						
	Nucl. Acid. Res., 21(19):4499-4505 (1993).						
	Larrouy et al., "RNase H is responsible for the non-specific inhibition of in vitro translation by 2'-O-alkyl,"						
	Nucl. Acid. Res., 23(17):3434-3440 (1995).						
	Shibahara et al., "Site-directed cleavage of RNA,"						
	Nucl. Acid. Res., 15(11):4403-4415 (1987).						
	Wang et al., "Relative stabilities of triple helices composed of combinations of DNA, RNA and 2'-O-methyl-RNA,"						
4	Nucl. Acid. Res., 23(7):1157-1164 (1995).						
I							
mes	Adams et al., "The Biochemistry of the Nucleic Acids,"						
	§7.2.1, 259-260 (11th ed. 1992).						
	Sproat et al., "2'-O-Methyloligoribonucleotides:synthesis and applications,"						
	from Eckstein, "Oligonucleotides and Analogues: A Practical Approach," Chapter 3, pgs. 49-86, (1991).						
	Uhlmann et al., Chemical Review,						
	90(4):558 (1990).						
	Winnacker, E.L., "From Genes To Clones,"						
	VCH Verlagsgesellschaft, Weinheim, FRG, 33-34 (1987).						
EXAMINER	men DATE CONSIDERED 1/3/00						

*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.